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MAR 29 2005



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DATE: March 29, 2005

TO: Commissioner for Patents
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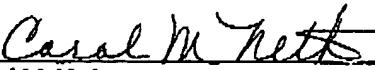
Pages (including this page) 19

FROM: Carol M. Neth
Paralegal, IP GroupRE: Customer No. 04249
Application No.: 10/645,429
Filed: August 21, 2003
Examiner: Ebenezer O. Sackey
Group Art Unit: 1626
Attorney Docket: 37241-01

Attached are the following documents:

One Month Extension of Time
Response to Office Action dated December 2, 2004
Credit Card Form PTO-2038

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S): ROBERT P. HEPFER, CRAIG) PATENT APPLICATION
T. MILLER, GREGORY A.) Confirmation No. 8069
NORENBERG, THOMAS G.)
ATTIG, JOHN R. BUDGE)
APPLICATION NO.: 10/645,429)
FILED: August 21, 2003) Group Art Unit: 1626
FOR: TWO-STAGE PROCESS FOR THE)
HYDROGENATION OF MALEIC ACID) Examiner:
TO 1,4-BUTANEDIOL) Ebenezer O. Sackey
)
) Attorney Docket No.:
) 37,241-01

RESPONSE

Attention: Group Art Unit 1626
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the office action mailed December 2, 2004, for which a one-month extension of time to respond is respectfully requested.

REMARKS

The present invention relates to a process for the hydrogenation of maleic acid to 1,4-butanediol (BDO), gamma-butyrolactone (GBL) and/or tetrahydrofuran (THF). This reaction proceeds in two steps. The maleic anhydride is first hydrogenated to succinic acid. The succinic acid is then hydrogenated to BDO, GBL and/or THF. These reactions will proceed over a wide range of temperatures and prior art reaction temperatures above 150°C were typical.

In the practice of this process, the internals of the reaction vessels, piping and equipment are in contact with maleic acid. Corrosion of process equipment is an issue. Corrosive conditions shorten the expected life of process equipment (e.g. hydrogenation